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### REMARKS

An excess claim fee payment letter is submitted herewith for one (1) additional dependent claim.

Claims 1-21 are all the claims presently pending in the application. Claims 1, 7, 11, 14, and 17 are amended to more clearly define the invention and claim 21 is added. Claims 1, 7, 11, and 17 are independent.

These amendments are made only to more particularly point out the invention for the Examiner and not for narrowing the scope of the claims or for any reason related to a statutory requirement for patentability.

Applicant also notes that, notwithstanding any claim amendments herein or later during prosecution, Applicant's intent is to encompass equivalents of all claim elements.

Support for new claim 21 may be found in the specification at, for example, at page 21, lines 4 - 10, and Figure 7.

Entry of this §1.116 Amendment is proper. Since the Amendments above narrow the issues for appeal and since such features and their distinctions over the prior art of record were discussed earlier, such amendments do not raise a new issue requiring a further search and/or consideration by the Examiner. As such, entry of this Amendment is believed proper and Applicant earnestly solicits entry. No new matter has been added.

Applicant gratefully acknowledges the Examiner's indication that claims 15-16 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. However, Applicant respectfully submits that all of the claims are allowable.

Claims 11 and 13 stand rejected under 35 U.S.C. § 102(b) as being anticipated by the

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Asbrand et al. reference. Claims 11-12 and 17-18 stand rejected under 35 U.S.C. § 102(a) as being anticipated by the Hamano et al. reference or in the alternative under 35 U.S.C. § 103(a) as being unpatentable over the Hamano et al. reference. Claim 13 stands rejected under 35 U.S.C. § 103(a) as being anticipated by the Hamano et al. reference.

These rejections are respectfully traversed in the following discussion.

#### **I. THE CLAIMED INVENTION**

A first exemplary embodiment of the claimed invention, as defined by, for example, independent claim 11, is directed to a damper valve, that includes a casing including a first port, a second port, and a valve sleeve dividing the casing into a first chamber communicating with the first port and a second chamber communicating with the second port and including a plurality of passages communicating with the first chamber and the second chamber, a spool in the first chamber and axially moveable with respect to the valve sleeve, a spring biasing the spool towards the second chamber, a one-way valve allowing flow from the first port to the second port and inhibiting flow from the second port to the first port, and a valve defining a gap between the casing and an outer circumference of the valve when a pressure differential across the valve is zero. The gap is defined by the casing, the valve sleeve, and the valve. Oil from the second port can flow to the first port through the second chamber, the gap, and the first chamber in this order.

A second exemplary embodiment of the claimed invention, as defined by, for example, independent claim 17, is directed to damper valve that includes a casing, a spool, a spring, a one-way valve, and a valve. The casing includes a first port, a second port, and a valve sleeve dividing the casing into a first chamber communicating with the first port and a

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second chamber communicating with the second port. The valve sleeve defines a plurality of passages communicating with the first chamber and the second chamber, and an annular groove communicating with an opening in each of the plurality of passages. The spool is in the first chamber and is axially moveable with respect to the valve sleeve. The spring biases the spool towards the second chamber. The one-way valve allows flow from the first port to the second port and inhibits flow from the second port to the first port. The valve has an outer circumference contacting the valve sleeve adjacent to the annular groove.

Conventional damper valves include valve members that get stuck to the valve sleeve which causes the driver to feel a certain load until the valve member separates from the valve sleeve. This sudden separation causes an on/off feeling to be felt by the driver which causes a bad influence upon the steering feeling. (Page 4, line 16 - page 5, line13).

In stark contrast, the first exemplary embodiment of the present invention includes a gap that is formed between the valve member and the valve sleeve. In this manner, the valve member does not get stuck to the valve sleeve and, therefore, the above-described problems are obviated. (Page 19, line 4 - page 20, line 22).

The second exemplary embodiment of the present invention provides the valve sleeve with an annular groove which increases the surface area upon which the returning hydraulic oil acts on the valve member is increased which, in turn, decreases the ability of the valve member to become stuck on the valve sleeve. (Page 24, line 13 - page 25, line 5).

## II. THE 35 U.S.C. § 112, SECOND PARAGRAPH REJECTION

The Examiner alleges that claims 1-10, 14, and 17-20 are indefinite. Regarding claims 1-10 and 14, while Applicant submits that such would be clear to one of ordinary skill

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in the art to allow them to know the metes and bounds of the invention, taking the present Application as a whole, to speed prosecution claims 1, 7, and 14 have been amended in accordance with Examiner Hepperle's very helpful suggestions.

Regarding claim 17, the Office Action alleges that "said annular groove" has no antecedent basis, however, contrary to this allegation, claim 17 sets forth antecedent basis for this feature on lines 8-9 by reciting "an annular groove communicating with an opening in each of said plurality of passages." (Emphasis added).

In view of the foregoing, the Examiner is respectfully requested to withdraw these rejections.

### III. THE PRIOR ART REJECTIONS

#### A. The Asbrand et al. reference

Regarding the rejection of claims 11 and 13, the Examiner alleges that the Asbrand et al. reference teaches the claimed invention. Applicant submits, however, that there are elements of the claimed invention which are neither taught nor suggested by the Asbrand et al. reference.

In an exemplary embodiment of the present invention, a valve member 25 is pressed by oil from a second port P2, a spool 22 receiving force from the valve member 25 narrows a gap S2 and enlarges a gap S4. In this manner, the amount of oil to be output to the first port P1 is suppressed.

If the oil is input from the first port P1, the spool 22 presses the valve member 25 to close an oil communicating passage 23a. However, it is clear from the present application that the valve member does not fully close the oil passage.

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In other words, a gap S4 is formed when a pressure differential across the valve is zero.

Moreover, in accordance with an exemplary embodiment of the present invention, an oil pressure shock caused by a steep change in pressure difference (corresponding to an on/off feeling discussed in the background of the application) is eliminated. In stark contrast, the Asbrand et al. reference suffers from this very same problem. The apparatus disclosed by the Asbrand et al. reference causes a steep pressure change and, therefore, causes an oil pressure shock.

Indeed, one of the objects of the Asbrand et al. reference is to improve the response of the oil pressure (i.e. the on/off feeling) while preventing a shimmy phenomenon.

Therefore, the Asbrand et al. reference is completely contrary to an object of the present invention which is to eliminate the on/off feeling while preventing a shimmy phenomenon.

In particular, the Asbrand et al. reference does not teach or suggest the features of the claimed invention including the combination of a one-way valve allowing flow from the first port to the second port and inhibiting flow from the second port to the first port in combination with another valve defining a gap between the casing and an outer circumference of the valve. As explained above, this combination of features is important for preventing the valve member from getting stuck to the valve sleeve and, therefore, obviating the above-described problems.

Rather, and in stark contrast, the Asbrand et al. reference discloses a damper valve 15 that only has one valve 30. The Asbrand et al. reference discloses a first port 10 in communication with a first chamber 24' and a second port (not number) in communication

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with a second chamber 24".

Independent claim 11 recites two valves in the damper valve: 1) a one-way valve allowing flow from the first port to the second port and inhibiting flow from the second port to the first port; and 2) a valve defining a gap between the casing and an outer circumference of the valve.

The Office Action only makes reference to the annular-disk like plate 30 as having "an obvious gap 27" between the outer valve circumference and the casing. Therefore, the Office Action only alleges that one of the two valves recited by independent claim 11 are disclosed by the Asbrand et al. reference.

The Office Action fails to present a *prima facie* case of anticipation by failing to provide a reference that discloses all of the features recited by the claims.

In particular, the Office Action fails to provide a *prima facie* case of anticipation because the Asbrand et al. reference clearly does not teach or suggest a one-way valve that allows flow from the first port to the second port but which also inhibits flow from the second port to the first port in addition to the valve that defines a gap between the casing and the outer circumference of the valve.

Clearly, the Asbrand et al. reference does not teach or suggest each and every element of the claimed invention. Therefore, the Examiner is respectfully requested to withdraw this rejection of claims 11 and 13.

**B. The Hamano et al. reference**

Regarding the rejections of claims 11-13 and 17-18, the Examiner alleges that the Hamano et al. reference anticipates and/or obviates the features of the claimed invention.

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Applicant submits, however, that the Hamano et al. reference does not anticipate and/or render the claimed invention obvious because the Hamano et al. reference clearly does not teach or suggest the features of the claimed invention.

As explained above, an exemplary embodiment of the present invention does not simply close the oil passage. In stark contrast, the Hamano et al. reference discloses an apparatus that simply closes the oil passage.

The valve plate 65 that is disclosed by the Hamano et al. reference produces a pressure difference and, therefore, has the same function as the plate 31 that is disclosed by the Asbrand et al. reference discussed above.

Further, as explained above, in accordance with an exemplary embodiment of the present invention, a gap S4 is formed when a pressure differential across the valve is zero.

Moreover, in accordance with an exemplary embodiment of the present invention, an oil pressure shock caused by a steep change in pressure difference (corresponding to an on/off feeling discussed in the background of the application) is eliminated. In stark contrast, the Hamano et al. reference suffers from this very same problem. The apparatus disclosed by the Hamano et al. reference causes a steep pressure change and, therefore, causes an oil pressure shock.

Indeed, one of the objects of the Hamano et al. reference is to improve the response of the oil pressure (i.e. the on/off feeling) while preventing a shimmy phenomenon.

Therefore, the Hamano et al. reference completely contrary to an object of the present invention which is to eliminate the on/off feeling while preventing a shimmy phenomenon.

In particular, the Hamano et al. reference does not teach or suggest the features of the claimed invention including: 1) a valve defining a gap between the casing and an outer

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circumference of the valve when a pressure differential across the valve is zero (claim 11); and 2) a valve sleeve that includes an annular groove communicating with an opening in each of a plurality of passages where the valve has an outer circumference contacting said valve sleeve adjacent to the annular groove (claim 17). As explained above, these features are important for preventing the valve member from getting stuck to the valve sleeve.

Clearly, the Hamano et al. reference does not teach or suggest a valve defining a gap between the casing and an outer circumference of the valve when a pressure differential across the valve is zero as recited by independent claim 11.

The Examiner alleges that the Hamano et al. reference discloses the limitation of a gap between the casing and the outer circumference of the valve as being inherently present because, "for the valve to open, there must be a small gap."

This statement is simply incorrect.

The power steering apparatus that is disclosed by the Hamano et al. reference includes a valve which clearly does not have a valve defining a gap between the casing and an outer circumference of the valve when a pressure differential across the valve is zero. Rather, the outer circumference of the valve 65, as is clearly illustrated by, for example, Figure 4, directly contacts the casing 51.

This valve does open despite the fact that there is no gap between the outer circumference of the valve 65 and the casing 51. To accept the Examiner's allegation as correct, would result in the valve 65 being inoperable. The Examiner has alleged that there must be a small gap in order for the valve to open. Since, there is no small gap between the outer circumference of the valve 65 and the casing 51, then the Examiner's statement could only be true if the valve 65 was not capable of opening.



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In other words, the Examiner alleges that the valve 65 that is disclosed by the Hamano et al. reference is inoperable.

Given the impossibility that the Examiner's above statement is true, Applicant speculates that the Examiner may have intended to state that "In order for the valve to be open, there must be a small gap" and that the Examiner simply made a typographical error in the Office Action.

However, even though there must be a small gap in order for there to be an opening in a valve, the Hamano et al. reference does not teach or suggest a valve defining a gap between the casing and an outer circumference of the valve when a pressure differential across the valve is zero as recited by independent claim 11.

As explained in the background of the present application, the Hamano et al. reference suffers from the problems that are solved by the claimed invention. The Hamano et al. reference discloses the same type of valve that is illustrated by Figure 14 of the present application which has a valve member 112 which does not define a gap with the casing and, which, therefore, suffers from a load variation at the time the valve member 112 is opened and causes a bad on/off feeling to be felt by the driver. (Page 5, lines 9-13).

In stark contrast, the claimed invention provides a valve defining a gap between the casing and an outer circumference of the valve when a pressure differential across the valve is zero. In this manner, "even when the flow rate of the returned hydraulic oil is in such a small amount region that the elastic deformation on the valve member 25 does not occur, the hydraulic oil can flow and be returned while realizing the damper effect. Therefore, the ON/OFF feeling which the driver feels when the valve member is elastically deformed can be suppressed, and thereby obtaining a good steering characteristic." (Page 19, lines 5 - 12).

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Further, with respect to independent claim 17, none of the applied references teaches or suggests a valve sleeve that includes an annular groove communicating with an opening in each of a plurality of passages where the valve has an outer circumference contacting said valve sleeve adjacent to the annular groove. As clearly explained in the specification at, for example, page 24 - line 13 - page 25, line 5, the annular groove in the valve sleeve with the valve contacting the valve sleeve adjacent to the annular groove prevents a shortage of oil from occurring across the surface of the valve and enables the pressure of the oil to act across substantially the entire face of the valve to, thereby, prevent the valve from sticking to the valve sleeve.

The Examiner alleges that the recesses 70 that are disclosed by the Hamano et al. reference correspond to the claimed annular groove. However, the recesses 70 are clearly not positioned on the valve sleeve such that the valve has an outer circumference contacting said valve sleeve adjacent to the annular groove as recited by independent claim 17.

Indeed, the Examiner does not even allege that the valve that is disclosed by the Hamano et al. reference has an outer circumference contacting said valve sleeve adjacent to the annular groove.

Indeed, the Examiner fails to allege that any of the applied references teaches or suggests these features.

Clearly, the Hamano et al. reference does not teach or suggest each and every element of the claimed invention. Therefore, the Examiner is respectfully requested to withdraw these rejections of claims 11-13 and 17-18.

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#### IV. FORMAL MATTERS AND CONCLUSION

In view of the foregoing amendments and remarks, Applicant respectfully submits that claims 1-21, all the claims presently pending in the Application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the Application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,

Date:

2/10/06  
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#### CERTIFICATION OF FACSIMILE TRANSMISSION

I hereby certify that I am filing this Amendment After-Final Rejection Under 37 CFR §1.116 by facsimile with the United States Patent and Trademark Office to Examiner Stephen M. Hepperle, Group Art Unit 3753 at fax number (571) 273-8300 this 10<sup>th</sup> day of February, 2006.

  
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